

Biologics for the treatment of nasal polyposis in Estonia

SUMMARY

Objectives: To evaluate the cost-effectiveness and budget impact of dupilumab and omalizumab for the treatment of nasal polyposis in Estonia.

Methods: A literature review on the effectiveness and cost-effectiveness of dupilumab and omalizumab was conducted from May to November of 2021. Current clinical practice in Estonia was analyzed based on 2016–2020 data from Estonian Health Insurance Fund (EHIF). Three year time perspective was used to perform the cost-effectiveness analysis as there was no efficacy data beyond the period. A cohort consisted of people who had previously received surgical treatment at least twice. Probabilities and quality of life estimates were based on published literature. The analysis used the perspective of the EHIF, which was taken into account in determining the costs for the analysis. The drug prices and treatment costs were calculated based on resource use data from EHIF health care service prices. Costs and effects were discounted using an annual discount rate of 5%. Results were presented in terms of costs, quality-adjusted life-years (QALY) and incremental cost-effectiveness ratios (ICER). A 3-year budget impact analysis was carried out from the healthcare payer perspective on assumption that 55 people start treatment with biologics each year.

Results: The analysis showed that in the base-case scenario treatment with dupilumab or omalizumab would enable to gain 0.55 and 0.45 QALYs, respectively, compared to the current treatment practice. The additional cost compared to current treatment was estimated at €27,000 with dupilumab and €37,000 with omalizumab. Respective ICERs were €48,620 per QALY gained for dupilumab and €82,158 per QALY gained for omalizumab. In sensitivity analysis, the results were most influenced by the drug prices. The 3-year budget impact analysis showed that if dupilumab or omalizumab would be added to the treatment of polyposis the total cost of chronic rhinosinusitis with nasal polyps would increase by €514,000 and €720,000, respectively.

Conclusions: Randomized controlled trials with dupilumab and omalizumab for the treatment of chronic rhinosinusitis with nasal polyps have shown positive results in reducing nasal polyps and improving patient-reported outcomes. The dupilumab treatment strategy was found to be more cost-effective than omalizumab in the Estonian setting.

Citation: Laidroo O, Plaas M, Juus E, Kiivet R, Jürisson M. *Bioloogilised ravimid ninapolüpoosi raviks*. TTH53. Tartu Ülikooli peremeditsiini ja rahvatervishoiu instituut; 2022.